

## ***ELIPSE E3 CONTROLS 90% OF VARIABLES AT FIOCRUZ RESEARCH CENTER, COMPLYING WITH FDA'S CFR21 PART 11 STANDARD***

***Eclipse Software's SCADA platform is used in the automation of different systems in the Research Center, regarded as the golden standard in the Brazilian health surveillance sector***

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### **Needs**

To promote health and social development; to generate and disseminate scientific and technological knowledge; and to be an agent of citizenship. These are the concepts that guide the actions of the [Oswaldo Cruz Foundation \(Fiocruz\)](#), under the Ministry of Health, the most prominent institution of science and health technology in Latin America.



***Oswaldo Cruz Foundation (Fiocruz)***

In order to optimize the control of its Research Center, a benchmark in Brazilian health regulation, located in Maré Campus in Rio de Janeiro, Fiocruz has opted

for [Elipse E3](#). The platform by [Elipse Software](#), the global software developer of real-time and remote process management solutions, was chosen due to its being easy to operate and to its featuring a free object library.

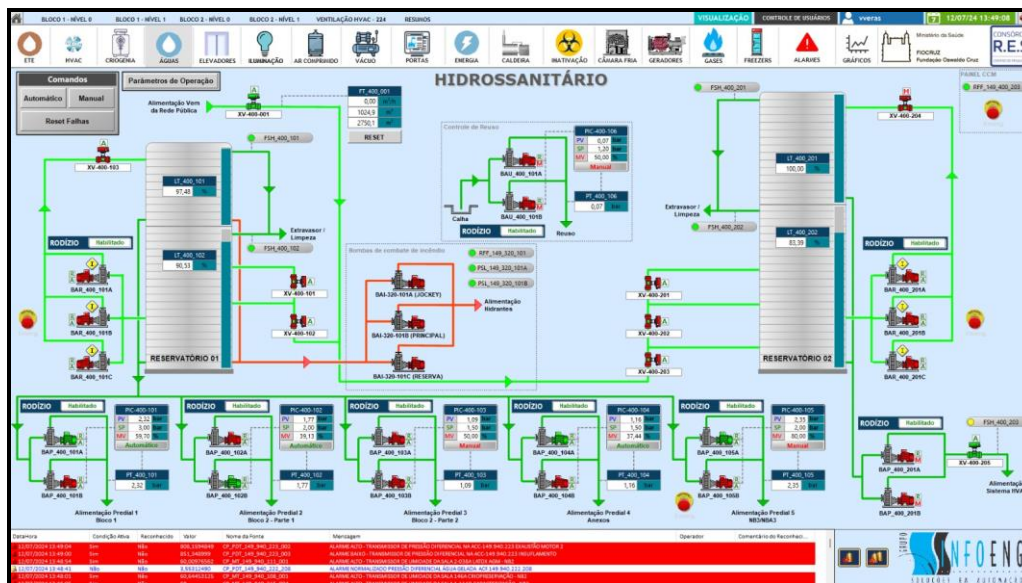
Another factor that tipped the scales is the accessible, skilled technical support provided by the company. Fully implemented by January 2023, the Elipse E3 application was designed and implemented by [Infoeng](#), the company that develops integrated solutions for industrial automation systems.

## Solution

Elipse E3 was implemented on two screens in Fiocruz's Research Center's control room. With the software, Fiocruz is able to control a series of systems that are crucial for the center's proper operation. They are, as listed: the hydro-sanitary system, the HVAC system, and the thermal inactivation of effluents system.

The hydro-sanitary system is responsible for water supply and flow in the Research Center. Via Elipse E3, it's possible to monitor water intake flow, reservoirs levels and overflows, power pumps electrical parameters, supply lines flow, firefighting line pressure, and command and power panels' devices statuses.

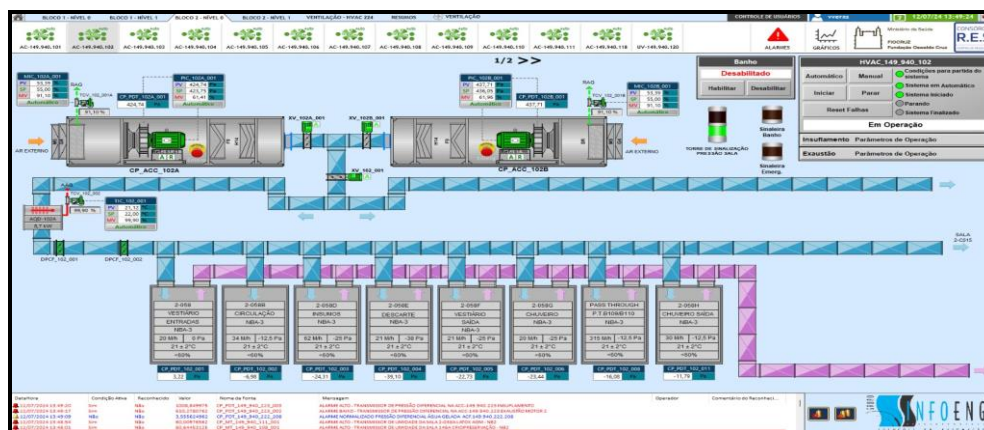
Regarding this system, the software allows controlling valves and pressure on water supply lines, in addition to the speed and activation of power pumps clusters. The electrical parameters that streamline the water flow of the Research Center buildings, both for water supply and firefighting, are also monitored by Elipse E3. And finally, the system allows establishing routines for operating engines and enabling rotation schedules for the equipment and staff.



**Hydro-sanitary system control**

The Research Center's HVAC system is now monitored and controlled by Elipse E3. With it, it's possible to control both the humidity and the temperature of the building by modulating the valves that regulate the passage of cold and hot water, respectively. The building's pressure is controlled via the balance of insufflation and exhaustion.

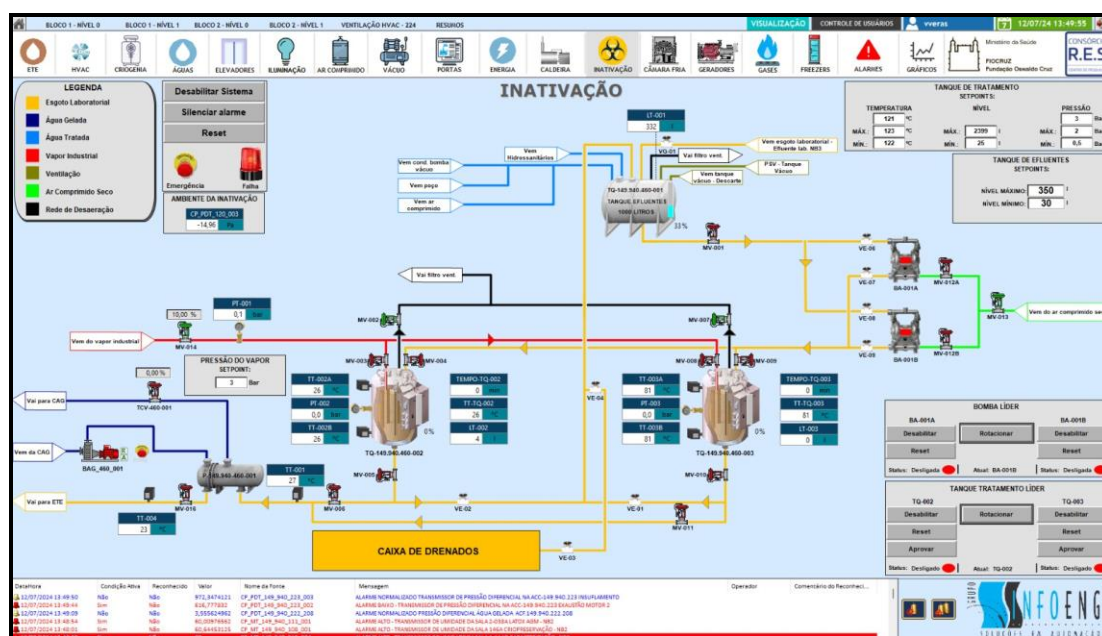
Inadequate pressure alarms, as well as emergency buttons and power/command panel devices statuses, are also supervised by Elipse E3. The equipment is controlled via PID controllers (proportional-integral-derivative), and all constants and variables can be parameterized and visualized by the software.



**HVAC system control**

The third system controlled by Elipse E3 at Fiocruz is the one responsible for thermal inactivation of effluents with high levels of biological contamination. To carry out the thermal inactivation, rejects are submitted to a temperature of approximately 125°C for a 90-minute period. The heating process takes place through a steam injection from a natural gas boiler.

Throughout the process, Elipse E3 allows commanding and supervising the control valves of steam and effluents, the inactivation period, temperature, pressure, and the rotation of pumps. Furthermore, it allows monitoring the temperature of discarded effluents.



### ***Thermal inactivation of effluents system control***

Finally, Elipse E3 features a system for quickly firing reports and trend charts of all events and alarms (with a digital signature) complying with CFR21 Part 11 standard of the FDA, the main international regulatory agency for Health-related activities. In addition to the reports, the software displays further information about alarms in the bottom margins of its screens, highlighting in red all those who had not been acknowledged and sent to maintenance yet.

## Benefits

Among the main benefits Elipse E3 has brought to Fiocruz Research Center, we highlight the following:

- Remote and real-time control of 90% of the most important variables for the Research Center's proper operation.
- Issues are more easily identified and quickly dealt with.
- Controls water intake flow, supply pressure, and reservoirs levels.
- Controls valves and power pumps clusters.
- Controls climatization's temperature, humidity, flow, and pressure.
- Controls valves, time, temperature, pressure, pumps, and level of tanks in process of thermal inactivation of effluents.
- Quickly fires reports and trend charts of all events and alarms (with a digital signature) complying with CFR21 Part 11 standard of the FDA, the main international regulatory agency for Health-related activities.

## Datasheet

**Client:** Fiocruz

**Solution provider:** Infoeng

**Elipse product:** Elipse E3

**Platform:** Windows Server 2019 Standard

**Number of copies:** 6

**I/O points:** 30,000

**Drivers:** Modicon Modbus Master (ASC/RTU/TCP)